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-- In step 6 (inspection), inspections including an operation check test and a durability test of the semiconductor device manufactured in step 5 are performed. A semiconductor device is completed with these processes and delivered (step 7). --

Please substitute the paragraph beginning at page 41, line 17, with the following. A marked-up copy of this paragraph, showing the changes made thereto, is attached in Appendix A.

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--In step 6 (inspection), inspections including an operation check test and a durability test of the semiconductor manufactured in step 5 are performed. A semiconductor device is completed with these processes and delivered (step 7).--

Please substitute the paragraph beginning at page 42, line 13, with the following. A marked-up copy of this paragraph, showing the changes made thereto, is attached in Appendix A.

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-- When the manufacturing method of this embodiment is used, a semiconductor device with a high degree of integration, which is conventionally difficult to manufacture, can be manufactured. --

IN THE CLAIMS:

Please amend Claims 1-6, 9, 11, 12, 15-17 and 21-25, as follows. A marked-up copy of these claims, showing the changes made thereto, is attached in Appendix A. For the Examiner's convenience, all claims currently pending in this application have been reproduced below:

1. (Amended) A detection apparatus for detecting a position of a mark formed on an object placed on a stage, comprising:

an image sensing system arranged to obtain image data by sensing an image of the mark formed on the object;

a measurement system arranged to obtain average data of a position deviation of the stage; and

an arithmetic section arranged to calculate the position of the mark at a state that the stage is at rest on the basis of the image data obtained by said image sensing system and the average data obtained by said measurement system.

2. (Amended) The apparatus according to claim 1, wherein

said image sensing system stores the image of the mark during a predetermined observation period and obtains the image data used for determining an average position of the mark during the observation period on the basis of the stored image.

3. (Amended) The apparatus according to claim 1, wherein

said image sensing system and said measurement system obtain the image data of the mark and the average deviation of the stage during substantially the same observation period, respectively.

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4. (Amended) The apparatus according to claim 1, wherein
after the stage moves to a position where said image sensing system can sense the
image of the mark and before the stage stops, said image sensing system and said measurement
system start image sensing and measurement to obtain the image data of the mark and the
average data of the position deviation of the stage, respectively.

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5. (Amended) The apparatus according to claim 1, wherein
said image sensing system comprises an off-axis scope.

6. (Amended) The apparatus according to claim 1, wherein
said measurement system comprises an interferometer.

7. The apparatus according to claim 1, wherein
the object has a plurality of areas, and a mark is formed in correspondence with
each area, and
positions of the plurality of marks at a state that the stage is at rest are detected by
said imaging sensing system, said measurement system, and said arithmetic section.

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8. The apparatus according to claim 7, further comprising
a positioning control section for executing global alignment on the basis of
detection results of the positions of the plurality of marks.

9. (Amended) The apparatus according to claim 1, wherein

in an area where said sensing system can sense the image of the mark, said image sensing system and said measurement system execute image sensing and measurement to obtain the image data of the mark and the average data of the position deviation of the stage, respectively, while moving the stage at a predetermined speed, and said arithmetic section calculates the position of the mark at a state that the stage is at rest on the basis of the image data and the average data.

10. The apparatus according to claim 9, wherein
the predetermined speed is a constant speed.

11. (Amended) An exposure apparatus comprising:

a stage moving a substrate thereon;
a projecting lens projecting a pattern onto the substrate;
first measurement means for measuring a position of a mark formed on the substrate;
second measurement means for measuring an average deviation of said stage;
calculation means for calculating the position of the mark at a state that said stage is at rest on the basis of a measurement result of said first measurement means and a measurement result of said second measurement means; and
positioning means for driving said stage on the basis of a calculation result by said calculation means to position the substrate at a target position.

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12. (Amended) The apparatus according to claim 11, wherein

said first measurement means comprises image sensing means for sensing an image of the mark, said image sensing means storing the image of the mark during a predetermined observation period and obtaining an average position of the mark during the observation period on the basis of the stored image.

13. The apparatus according to claim 11, wherein

said first measurement means and said second measurement means measure an average position of the mark and the average deviation of said stage during substantially the same observation period, respectively.

14. The apparatus according to claim 11, wherein

after said stage moves to a position where said first measurement means can measure the position of the mark and before said stage stops, said first measurement means and said second measurement means start measuring the position of the mark and the average deviation of said stage, respectively.

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15. (Amended) The apparatus according to claim 11, wherein

said first measurement means comprises an off-axis scope.

16. The apparatus according to claim 13, wherein

said second measurement means comprises an interferometer.

17. The apparatus according to claim 11, wherein
the substrate has a plurality of areas to be exposed, and a mark is formed in
correspondence with each area to be exposed, and
positions of the plurality of marks at a state that said stage is at rest are detected
by said first measurement means, said second measurement means, and said calculation means.
18. The apparatus according to claim 17, further comprising
positioning means for executing global alignment on the basis of detection results
of the positions of the plurality of marks.
19. The apparatus according to claim 11, wherein
in an area where said first measurement means can measure the position of the
mark, said first measurement means and said second measurement means measure the position of
the mark and the average deviation of the stage, respectively, while moving said stage at a
predetermined speed, and said calculation means calculates the position of the mark at a state that
said stage is at rest on the basis of the measurement results.
20. The apparatus according to claim 19, wherein
the predetermined speed is a constant speed.

21. (Amended) The apparatus according to claim 11, further comprising
determination means for determining a calculation mode to be applied when said
calculation means calculates the position of the mark at a stage that said stage is at rest.

22. (Amended) The apparatus according to claim 21, wherein
said determination means determines the calculation mode on the basis of the
position of the mark and the deviation of said stage, which are measured by said first
measurement means and said second measurement means while placing, on said stage, an
inspection substrate having a mark formed by exposing a pattern by said exposure apparatus.

23. (Amended) A detection method of detecting a position of a mark formed on an
object placed on a stage, comprising:

the first measurement step of measuring a position of a mark formed on the
object;

the second measurement step of measuring an average deviation of the stage; and

the calculation step of calculating the position of the mark at a stage that the stage
is at rest on the basis of a measurement result in the first measurement step and a measurement
result in the second measurement step.

24. (Amended) A method of controlling an exposure apparatus having a stage for
moving a substrate placed thereon, and a projecting lens for projecting a pattern onto the
substrate, comprising:

the first measurement step of measuring a position of a mark formed on the substrate;

the second measurement step of measuring an average deviation of the stage;

the calculation step of calculating the position of the mark at a state that the stage is at rest on the basis of a measurement result in the first measurement step and a measurement result in the second measurement step; and

the positioning step of driving the stage on the basis of a calculation result in the calculation step to position the substrate at a target position.

25. (Amended) A method of manufacturing a device, comprising the steps of:

placing a substrate applied with a resist on a stage of the exposure apparatus of claim 11;

aligning the substrate in the exposure apparatus; and

transferring a pattern to the substrate in the exposure apparatus.

Please add new Claim 26, as follows:

--26. (New) A detection apparatus for detecting a position of a mark formed on an object placed on a stage, comprising:

a first measurement system for measuring the position of the mark formed on the object;